

NOTICE OF SAFETY ADVISORY 98-2 - Activation of available two-way EOT devices.

On June 5, 1998, FRA published a Notice of Safety Advisory 98-2 in the Federal Register (Vol. 63, No. 108), addressing safety practices to reduce the risk of casualties caused by failure to activate the available two-way end-of-train telemetry device (two-way EOT) to initiate an emergency brake application beginning at the rear of the train when circumstances require an emergency application of the train airbrakes. It reads as follows:

Several recent freight train incidents potentially involving the improper use of a train's airbrakes have caused FRA to focus on railroad airbrake and train handling procedures related to the initiation of an emergency airbrake application, particularly as they pertain to the activation of the two-way EOT from the locomotive. FRA and the National Transportation Safety Board (NTSB) are currently investigating four incidents in which a train was placed into emergency braking by use of the normal emergency brake valve handles on the locomotive, and although the train in each instance was equipped with an armed and operable two-way EOT, the device was not activated by the locomotive engineer. These incidents include:

- ! A March 30, 1997, incident occurring near Ridgecrest, North Carolina, involving Norfolk Southern train No. P32, resulting in 42 cars derailed and two crewmembers injured;
- ! An October 25, 1997, incident occurring in Houston, Texas, involving Union Pacific train Nos. IHOLB-25 and MTUHO-21, resulting in five locomotives derailed and totally destroyed and two crewmembers injured;
- ! A November 3, 1997, incident occurring near Alvord, Texas, involving Burlington Northern Santa Fe train Nos. HALTBAR 1-03 and ESLPCAM 3-11, resulting in three locomotives and seven cars derailed and two crewmembers injured;
- ! A March 23, 1998, incident occurring near Herington, Kansas, involving Union Pacific train Nos. MKSTUX-23 and IESLB-21, resulting in one locomotive and six cars derailed and one crewmember injured.

The facts and findings developed in the investigations currently being conducted by FRA and the NTSB will be published when the individual investigations are complete.

FRA's preliminary findings indicate that in all of the incidents noted above, there was evidence of an obstruction somewhere in the train line, caused by either a closed or partially closed angle cock or a kinked air hose. This obstruction prevented an emergency brake application from being propagated throughout the entire train, front to rear, after such an application was initiated from the locomotive using either the engineer's automatic brake valve handle or the conductor's emergency brake valve. Furthermore, the locomotive engineers in each of the incidents stated that they did not think to use the two-way EOT, when asked why they failed to activate the device.

Two-Way End-of-Train Device Regulation:

On January 2, 1997, FRA published a final rule amending the regulations governing train and locomotive power braking systems contained at 49 CFR Part 232 by adding provisions pertaining to the use and design of two-way EOTs. See 62 FR 278. Two-way EOTs provide locomotive engineers with the capability of initiating an emergency brake application that commences at the rear of the train. The purpose of the new provisions was to improve the safety of railroad operations by requiring the use of two-way EOTs on a variety of trains pursuant to 1992 legislation, and by establishing minimum performance and operational standards related to the use and design of the devices. Furthermore, the regulatory provisions related to two-way EOTs are intended to ensure that trains operating at a speed over 30 mph or in heavy grade territory are equipped with the technology to effectuate an emergency application of the train's airbrakes starting from both the front and rear of the train. The specific exceptions contained in the regulation are aimed at trains that: (i) do not operate within the express parameters; or (ii) are equipped or operated in a fashion that provides the ability to effectuate an emergency brake application that commences at or near the rear of the train without the use of a two-way EOT. See 49 CFR 232.25(e)(1)-(e)(9).

Based on FRA's review of the above incidents, and its awareness of other incidents involving non-use of two-way EOTs under similar circumstances, it appears that further guidance regarding the use of the devices may be of assistance to our nation's railroads. This advisory may be especially beneficial to individuals responsible for train operations that do not have a thorough understanding of two-way EOTs and their function. Accordingly, FRA believes that the following recommended procedure for activating the two-way EOT should be taken to reduce the likelihood of future incidents caused by an inability to stop a moving train that encounters a train line obstruction.

Recommended Action:

FRA recommends that each railroad adopt and implement a procedure that requires the locomotive engineer or other train crewmember to activate the two-way EOT, on trains equipped with the device, using the manual toggle switch, whenever it becomes necessary to place the train airbrakes in emergency using either the automatic brake valve handle or the conductor's emergency brake valve. FRA also recommends that the two-way EOT be activated whenever an undesired emergency application of the train airbrakes occurs. FRA believes that the likelihood of future incidents, such as the ones described above, would be greatly reduced if, besides following existing procedures regarding emergency train braking, railroads require additional action to be taken by a member of the train crew. FRA believes that this additional procedure would not only ensure that an emergency brake application is commenced from both the front and rear of the train, but that it will help familiarize the engineer with the activation of the device and will educate the engineer to react in the safest possible manner whenever circumstances require an emergency brake application. FRA further recommends that railroads have an operating supervisor personally conduct a face-to-face meeting with each locomotive engineer and conductor to explain the contents of this advisory, preferably during a mock demonstration in order to reinforce employee familiarization with the operation of the two-way EOT, and to ensure that each individual has a thorough understanding of how and under what circumstances

to activate the two-way EOT. In issuing this safety advisory, FRA acknowledges the following railroads that have already taken the lead on this issue by having in effect a similar or comparable requirement: Burlington Northern Santa Fe, Conrail, CSX, Norfolk Southern, and Union Pacific.

FRA may modify Safety Advisory 98-2, issue additional safety advisories, or take other appropriate necessary action to ensure the highest level of safety on the Nation's railroads.

Issued in Washington, D.C. by George Gavalla, Acting Associate Administrator for Safety.

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